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COMPLETE SPECIFICATION.

Improvements in Centrifugal Separating Apparatus.

We, PETER SPENGLER of Merzig on the Saar, Rhenish Prussia, in the German Empire, Engineer, and EMIL SOMMERSCHUH, of Rakonitz, in the Province of Bohemia, Empire of Austria, Earthenware Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying drawings and to the letters and figures marked thereon, that is to say:

This invention relates to a centrifugal separating apparatus more particularly designed for extracting water from slip.

10 The apparatus forming the subject of this invention has its revolving body or drum provided with a number of radially arranged closed conical chambers containing screw-conveyors. From the upper hollow trunnion of the drum, and through radial passages branching from the same, these chambers are fed with slip—that is to say a mixture of equal parts by weight of finely ground clay

15 and water. When the apparatus is to be run, the exit mouths of the chambers, at their outer pointed ends, are closed by means of any suitable device, and the water pipes leading from the inner ends of the chambers are opened. The apparatus is then started, and slip is allowed to flow into the chambers, while the screw-conveyors in these chambers remain at rest. In this way solid plugs

20 of nearly dry paste are obtained in the tapering ends of the chambers. The centrifugal is then stopped, the closing devices of the exit holes of the chambers are opened, the driving mechanism of the screw-conveyors is thrown into gear, and the centrifugal is again set in motion, whereon a continuous string

25 of dry paste is ejected from each chamber.

And in order that our invention may be more readily understood, we will now describe it fully with reference to the annexed drawing which illustrates, in sectional elevation, one form of our improved centrifugal separating apparatus.

From the reservoir *a*, the slip flows into the hollow upper trunnion *b* of the

30 drum *c*, and thence through radial sloping passages *d*, into the conical chambers *f*, containing screw conveyors *g*. When the apparatus is to be operated, the mouths or orifices at the outer tapered ends of these chambers are first closed by means of suitable devices. The drum *c* is then revolved, and the stop-cock of the eduction pipe of the reservoir *a* is opened, whereby,

35 as the screw conveyors are not worked, plugs of dry paste are formed in the tapering outer ends of the chambers, while the water flows out through the pipes *h* into the gutter *j*. After a certain time, the apparatus is stopped, the closing devices of the mouths of the conical chambers are removed, the driving mechanism of the screw-conveyors is thrown into gear, and the apparatus again

40 set in motion. By conveniently adjusting the speed of the screw-conveyors *g*, which adjustment is provided for by the mechanism shewn in the drawing, quite as much dry paste may be forced out in the unit of time as there is fresh clay added in the same time by the centrifugal force to the stopper, which is thus always kept unbroken. The dry paste is thrown against a ring *m*, revolving

45 upon rollers *k*, and in contact with a stationary strickle *n* that causes the dry paste to fall down.

[Price 8d.]

Spengler and Sommerschuh's Improvements in Centrifugal Separating Apparatus.

We are aware that centrifugal machines the drums of which contain conveying screws enclosed in suitable casings are known, but the drums of these machines are entirely closed at their circumference, and the conveying screws push the material inwardly against the action of the centrifugal force.

Although we have described conical conveying screws in conical casings, as a means for compressing the paste behind the exit orifice, it is obvious that other suitable arrangements may be used for the same purpose without departing from the nature of our invention. Thus for instance cylindric conveying screws and cylindric casings may be combined with a plate or disc closing the exit orifice and having a number of small holes.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A centrifugal separating apparatus whose drum contains conveying screws enclosed in casings and designed to eject the dried material, characterized by a suitable device for offering a resistance to the ejection of the dried material.
2. A centrifugal separating apparatus as under Claim 1, characterized by conveying screws and chambers for the same, which screws and chambers taper toward the exit orifice.
3. A centrifugal separating apparatus, according to Claim 1, characterized by conveying screws, the speed of which can be regulated at will.
4. The improved centrifugal separating apparatus, substantially as hereinbefore described with reference to, and as shewn in, the annexed drawings, and for the purpose set forth.

Dated this 10th day of August 1907.

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[This Drawing is a reproduction of the Original on a reduced scale.]

